ultimatte dv

User Guide

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IMPORTANT SAFETY INSTRUCTIONS

WARNING

TO PREVENT SHOCK, DO NOT OPEN THE CABINET. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. PLEASE READ THIS USER'S GUIDE BEFORE OPERATING THE *ULTIMATTE DV* UNIT. SAVE THIS USER'S GUIDE FOR FUTURE REFERENCE.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture

WARNING: Changes or modifications made to this equipment, not expressly approved by Ultimatte Corp, or parties authorized by Ultimatte, could void the warranty and the user's authority to operate the equipment.

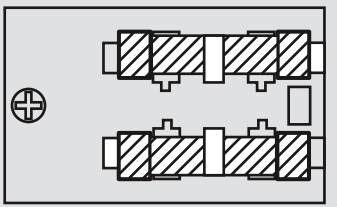
PRECAUTIONS

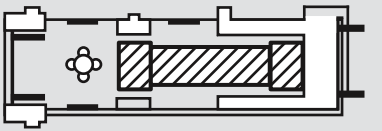
1. Read this user's guide before operating the *Ultimatte DV* unit.
2. Keep these instructions for future reference.
3. Heed all warnings.
4. To reduce the risk of electric shock, do not disassemble this appliance. Take it to a qualified technician when service or repair is required.
5. Do not install near any heat sources such as radiators heat registers, stoves, or other apparatus that produce heat.
6. Unplug this apparatus during lightning storms or when unused for long periods of time.

FUSE REPLACEMENT: Two (2) 5mm X 20mm fuses must be installed on the ULTIMATTE DV power entry module. Fuses are positioned as shown below.

CAUTION: For Continued Protection Against Risk Of Fire, Replace Only With Same Type And Rating Of Fuse.

FUSE POSITIONING





Second fuse on opposite side.

Declaration of Conformity

Trade Name:	Ultimatte Corporation
Model No.:	Ultimatte DV
Responsible Party:	Ultimatte Corporation 20945 Plummer Street Chatsworth, CA 91311
USA	
Telephone:	818.993.8007

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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User Guide

GETTING STARTED

① Gather or make a list of all the equipment you will be using with your Ultimatte DV. Keep in mind you will need a foreground input, a background input and a monitor (and recording device if desired) for the resulting output.

② After selecting your equipment, use the Back Panel Connections and Typical Setup diagrams (in the next section - Hardware Connections) to ensure the connection types present on your equipment are compatible with the corresponding inputs and outputs on the Ultimatte DV.

③ Setup your bluescreen or greenscreen with some subject matter (a doll makes a good test subject while you are learning.)

④ Connect and power up your equipment.

⑤ Power up the Ultimatte DV.

⑥ Read the Controls Overview section that follows to get an overall feel for how the controls on the Ultimatte DV work.

⑦ Read the On-Screen Display Controls section for a more in-depth understanding of how to setup the operating environment options.

⑧ Read the Front Panel Controls section for a more in-depth understanding of how to refine your composite for the best possible results.

⑨ Practice! Experiment with the Ultimatte DV's controls to get a better understanding of exactly what they do and when to use them. Experiment with your camera, lighting and background to get a better understanding of the pitfalls (and how to avoid them) of bluescreen/ greenscreen shots.

CAMERA SETUP TIPS

When setting up your camcorder for an Ultimatte DV shoot:

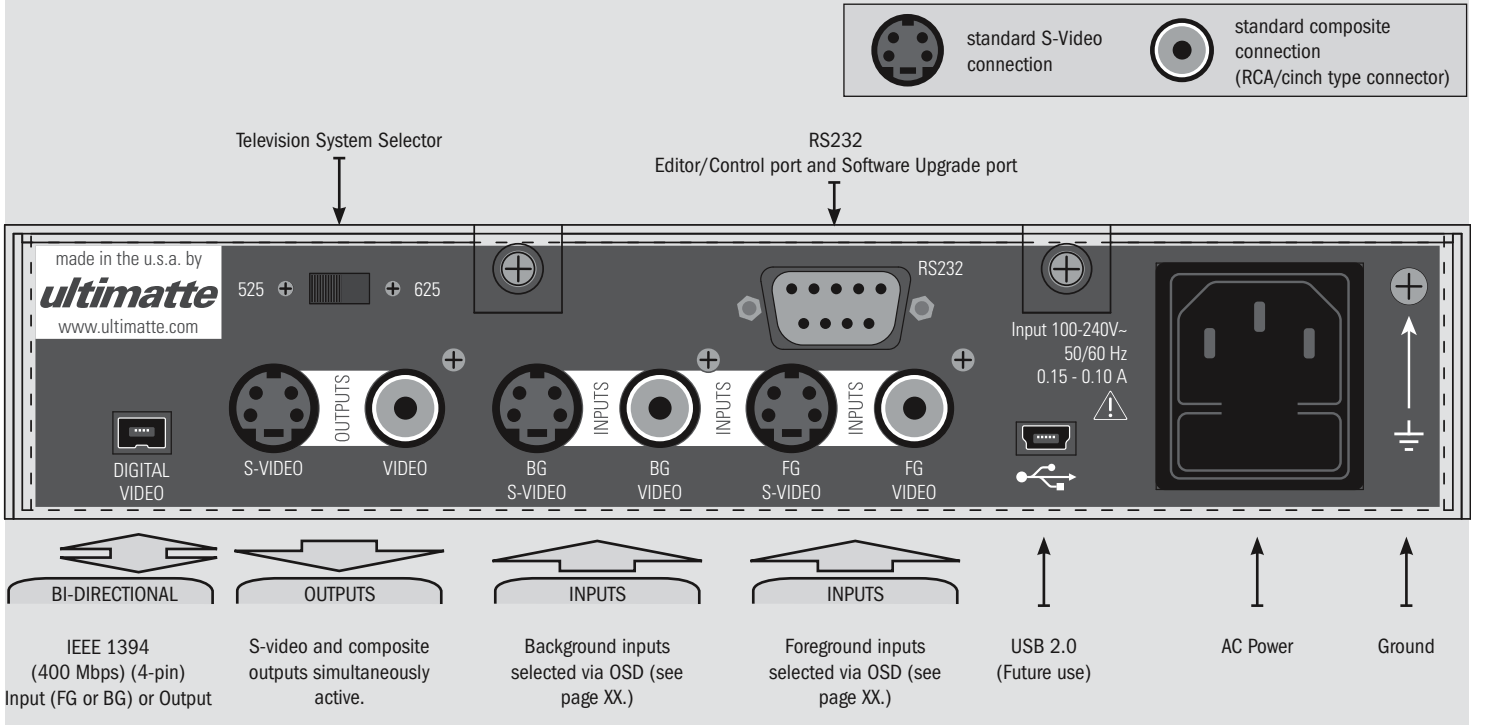
① All automatic features should be turned off.

② Make sure to AWB (Auto White Balance) your camcorder before shooting for an Ultimatte DV. If you are using a Reflecmedia blue or green ring light, make sure the ring light is off before setting or adjusting white balance.

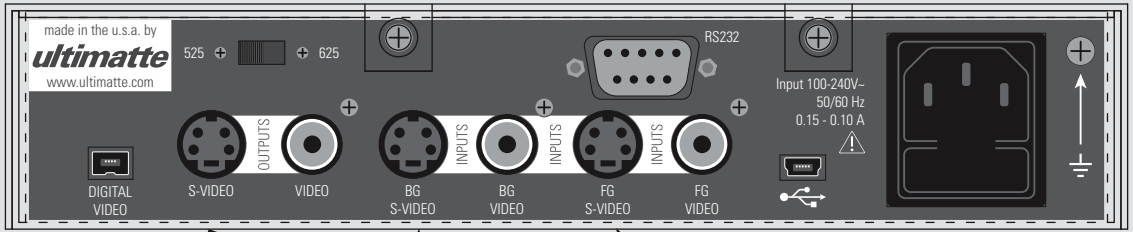
③ Below is a list of camcorder menu settings that should be adjusted for the ideal performance of the Ultimatte DV. Depending on your camcorder type, some of the controls may not be adjustable or may not appear on your camcorder menu.

DETAIL LEVEL: .....0 or -3	**KNEE:** .....MID or HIGH
V DETAIL CORING: 0	**AUTO IRIS:** .....OFF
SKIN TONE DETAIL: .....OFF	**COLOR TEMP:** 0
V DETAIL FREQ: .....THIN	**ATW:** .....OFF
MASTER PED: 0	**MID GAIN:** .....0 db
GAMMA: .....NORM	**HIGH GAIN:** .....0 db
MATRIX: .....NORM	**AGC:** .....OFF

BACK PANEL CONNECTIONS



TYPICAL SETUP



Real time output

Real time view during shooting

Background IN

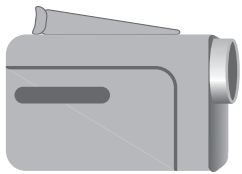
Foreground IN

RECORDER
(or computer)

MONITOR/TV

DVD PLAYER

CAMCORDER



CONTROLS OVERVIEW

All controls on Ultimatte DV can be adjusted by following the procedures as described below.

ON-SCREEN DISPLAY (OSD)

- Press the **Menu** button on the front panel.
- An On-Screen Display (OSD) will be visible over the video output indicating the current settings:

- Turn the large, rotary knob to navigate up or down the menu.
- When the desired configuration menu is reached, press the **Menu** button to activate the submenu, and turn the knob to navigate up and down the submenu.
- Press the **Menu** button to accept the selection and return to the previous menu.
- Go to **Exit** to accept all chosen selections and exit the OSD by pressing the **Menu** button.
- Go to **Cancel** and press the **Menu** button to exit the OSD without changing settings.

FRONT PANEL CONTROLS

- Press the button for the desired control adjustment until the LED is lit.
- Turn the Rotary Knob clockwise to increment the control amount or turn counter-clockwise to decrement the control amount.
    - Turn the knob slowly for fine adjustments.
    - Turn the knob quickly for coarse adjustments.
    - Position is indicated by the illuminated portion of the ring light. Minimum light indicates minimum control position and maximum light indicates maximum control position.
- Press the button again until the LED is unlit to "lock" the control in place thereby avoiding accidental adjustments.

ON-SCREEN DISPLAY CONTROLS

- **Backing Color: Blue, Green**
- **FG Input:** Turn the knob until the desired foreground input is selected (**S-Video**, **Video**, **Digital**(DV)).
- **BG Input:** Turn the knob until the desired background input is selected (**S-Video**, **Video**, **Digital**(DV)).
- **Power Up Mode:** Turn the knob to select **Factory** or **User** (if saved) power-up settings. If **User** is chosen, controls and inputs will be restored to the user saved settings (see **Settings** below) on power up. If **Factory** is chosen, controls will be restored to factory defaults and inputs will be restored to their state at last power down.
- **Settings:** Turn the knob to select **Save** to save user defined defaults. Select **Load** to load previously saved user defined defaults.
- **Exit:** Exits the main menu using the chosen settings.
- **Cancel:** Exits the OSD menu with no change.

Warning Video is always available on both the S-Video and Composite outputs. Video is only available on the Digital Video output if not chosen as an input in the configuration menu. If no video is seen through the Digital Video output, then it is most likely that Digital Video has been chosen as a foreground or background input. Temporarily use the S-Video or Composite output in order to ensure **Digital Video** is not selected for either **FG Input** or **BG Input.**

RESET

Press the **reset** button to reset all controls to the factory default values. The LED will remain lit until all controls have been reset. The **reset** control will not affect the user-saved settings.
If the **reset** LED flashes, the unit is requesting to re-sample screen values. This will typically occur when a change has been made to the foreground input or the backing color. Press the **reset** button.

OUTPUT

Press the **output** button, the LED will light. Turn the rotary knob to cycle through the available outputs as seen on the video monitor. The image displayed on the video monitor is exactly what will be output through the back panel output connectors:

① Composite using free running video
② Composite using Freeze (background framestore)
③ Composite with Test Signal #1 (Gray)
④ Composite with Test Signal #2 (Bars)
⑤ Composite with Test Signal #3 (Gradient)
⑥ Background using Freeze
⑦ Background (live video)
⑧ Matte
⑨ Foreground

TRANSPARENCY *Set these controls while viewing the matte or the composite.*

These controls are used to adjust the density or opacity of the foreground objects. The density of a foreground object is determined by its matte

(alpha) value. A completely opaque object's matte will be white, a completely transparent object's matte will be black, and a partially transparent object's matte will be gray.
To adjust this control, press the corresponding button until the LED is lit. Turn the rotary knob until the desired effect is reached.

- **Brights:** Use this control to adjust density in bright foreground objects.
  Warning: Advancing this control too far can cause hard, dark edges around foreground subjects.

To adjust this control, press the corresponding button until the LED is lit. Turn the rotary knob until the desired effect is reached.

- **Darks:** Use this control to adjust density in black glossy or dark foreground objects.
  Warning: Advancing this control too far can cause hard, dark edges around foreground subjects.

SPILL *Set these controls while viewing the composite*

The Ultimatte algorithms will automatically suppress spill reflected from the backing onto foreground subject matter. These controls are used to suppress excessive spill.
To adjust this control, press the corresponding button until the LED is lit. Turn the rotary knob until the desired effect is reached.

- **Color:** Use this control to adjust the amount of spill in warm colored foreground objects. Used to reproduce pink, purple and magenta colors for bluescreen, or yellow and orange colors for greenscreen that changed through the spill suppression algorithms.

To adjust this control, press the corresponding button until the LED is lit. Turn the rotary knob until the desired effect is reached.

- **Darks:** Use this control to adjust the amount of spill on dark foreground objects.

CLEANUP *Set this control while viewing the matte or composite.*

To adjust this control, press the corresponding button until the LED is lit. Turn the rotary knob until the desired effect is reached.

- Adjusting the cleanup control is used to adjust the black and gray areas of the matte channel. This will dramatically affect the nature of foreground objects' edges, the opacity of transparent objects, and the noise in the foreground image.
  Warning: Use this control sparingly as it WILL result in the loss of foreground detail.

FADE *Set this control while viewing the composite.*

To adjust this control, press the corresponding button until the LED is lit. Turn the rotary knob until the desired effect is reached.

- Adjusting the mix control will simulate the effect of a "fade" function. The final video will be a mix between composited image and the background.

FREEZE

- This control is used to store a single frame to be used as the background image in Ultimatte DV. A valid video signal must be connected to the background input as chosen through the configuration set-up. When the desired frame is seen on the video monitor, press the **Freeze** button until the LED is lit to alert Ultimatte DV to use the single frame (as opposed to the free running video connected to the back panel connector) as the background input.

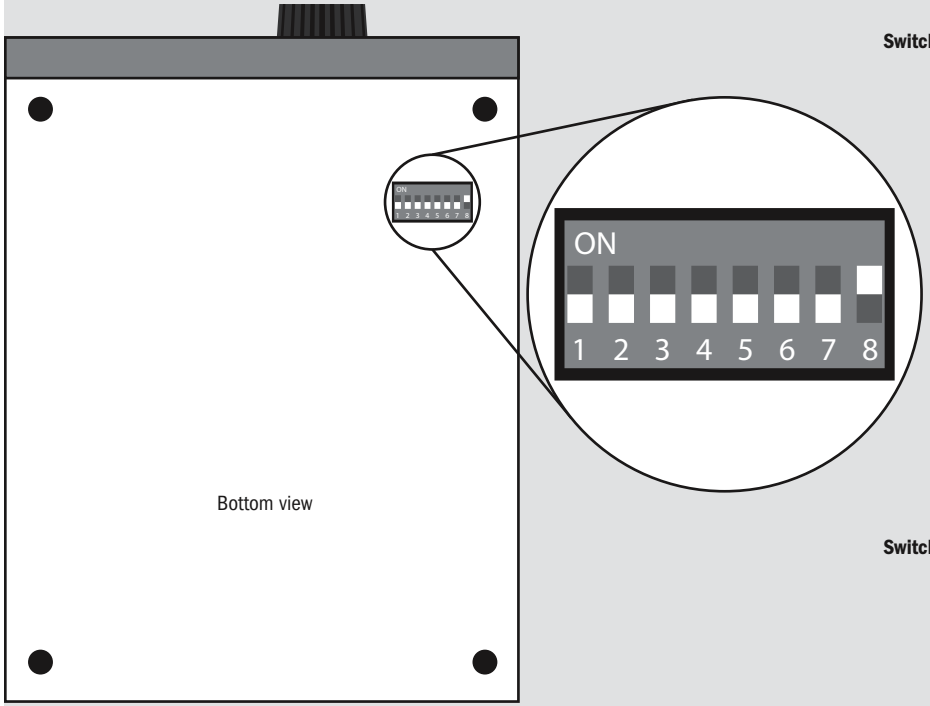
SPECIFICATIONS AND TECHNICAL DATA

Video Standards:	NTSC, PAL			
Analog Video Inputs:				
Foreground:	Signal Type:	Connectors:	Nominal Level:	Impedance:
S-Video	1 x S-Video (Y/C)	1 x Female 4-Pin Mini DIN	Y of S-Video: 1 Vp-p C of S-Video: 0.3 Vp-p	75 Ohms
Composite Video	1 x Encoded (Comp.) Video	1 x Female RCA	Encoded (Comp.) Video: 1 Vp-p	75 Ohms
Background:	Signal Type:	Connectors:	Nominal Level:	Impedance:

S-Video	1 x S-Video (Y/C)	1 x Female 4-Pin Mini DIN	Y of S-Video: 1 Vp-p C of S-Video: 0.3 Vp-p	75 Ohms
Composite Video	1 x Encoded (Comp.) Video	1 x Female RCA	Encoded (Comp.) Video: 1 Vp-p	75 Ohms
Analog Video Outputs:				
	Signal Type:	Connectors:	Nominal Level:	Impedance:
S-Video	1 x S-Video (Y/C)	1 x Female 4-Pin Mini DIN	Y of S-Video: 1 Vp-p C of S-Video: 0.3 Vp-p	75 Ohms
Composite Video	1 x Encoded (Comp.) Video	1 x Female RCA	Encoded (Comp.) Video: 1 Vp-p	75 Ohms
Digital Video Input/Output				
Selectable as Background or Foreground Input OR Output	Signal Type:	Connector:		
	1 x IEEE-1394 (Firewire) Interface	IEEE-1394 4-Pin		
Control Interface:				
RS-232	Signal Type:	Connector:		
	115kbaud; 8 data bits; 1 stop bit; non-parity	1 x 9 Pin D-type, Female		
USB	Signal Type:	Connector:		
	USB 2.0	1 x Mini USB Type B		
Power:				
	Voltage:	Current:	Fuse:	

	100 - 240V~ 50/60 Hz	0.15 - 0.10 A	T0.5A 250V~	
Operating Temperature:				
	0°C to +50°C (+32°F to +112°F)			
Rack Mount:				
	With optional Rack Shelf			
Enclosure:				
	Type:	Dimensions:	Weight:	
	Metal	H = 45mm (1.7”) (1U Height)	2.04Kg (4.5lbs)	
		W = 212mm (8.35”) (0.5 Rack Width)		
		D = 303mm (11.93”)		
Total Unit Delay				
	Total signal delay from input to output is 192 μsecs.			

DIP SWITCH SETTINGS



Switch 1: Pedestal (black level) setting

OFF = 0 IRE (Pedestal is not added (NTSC-J))
ON = 7.5 IRE (Pedestal is added to the output video (NTSC-M))

Switch 6: Flare Extension

OFF = Normal
ON = Flare suppression will start at a higher value.

Switch 7: Matte Invert

OFF = Subject is black, screen area is white
ON = Subject is white, screen area is black

Switch 8: Output view text label setting

A text label describing the current output view is normally displayed in the upper left corner of the screen when selecting different output views. The text is displayed for 2 seconds.
OFF = Disable
ON = Enable

ADDITIONAL NOTES

- Any physical cable disconnect/reconnect requires a unit reset.
- A gray output screen indicates that no foreground input is detected. This can happen when no foreground is connected or because the wrong foreground input is selected.

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